



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/767,821	01/24/2001	Maximilian Angel	51162	2188

26474 7590 04/06/2006

NOVAK DRUCE DELUCA & QUIGG, LLP
1300 EYE STREET NW
SUITE 400 EAST
WASHINGTON, DC 20005

EXAMINER

KANTAMNENI, SHOBHA

ART UNIT PAPER NUMBER

1617

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Art Unit: 1617

DETAILED ACTION

Applicants amendment filed on 01/11/2006, amended claim 1, and also added new claims 18-21.

Claims 1-3, 10, and 18-21 are pending, and examined herein.

Applicants amendment by inserting new limitations "wherein the free-radical system is a solution consisting of a free-radical initiator and a liquid polyethylene glycol", and "which polyethylene glycol is liquid at room temperature" in independent claim 1 overcomes the rejection of claims 1-3, and 10 under 35 U.S.C. 102(b) as being anticipated by GB 922, 457 (PTO-1449, 04/09/2001).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB 922,457 (PTO-1449, 04/09/2001), in view of Wu et al. (5,338,814).

GB '457 discloses a process for preparing graft copolymers of polyvinyl esters comprising polymerizing a vinyl ester such as vinyl acetate, vinyl propionate, vinyl butyrate, vinyl benzoate, or esters of acrylic or methacrylic acid with lower aliphatic alcohols in the presence of polyethers such as polyethylene glycols having a molecular weight between 106 to several millions, preferably between 1000 to 30,000, by adding a free-radical initiator such as diacetyl peroxide, dibenzoyl peroxide, or azodiisobutyronitrile. See page 2, lines 33-75; page 9, claims 1, 12. It is further disclosed that the polyalkylene glycol is dissolved in at least one monomer in the presence or absence of additional solvent, and the polymerization is carried out in a homogeneous phase using a free radical initiator. See page 1, lines 55-69. It is also disclosed that the polymerization can be carried out in a continuous manner. See page 2, lines 3-4. On page 3, a graft copolymer obtained by polymerizing 90 parts by weight of vinyl acetate, 10 parts by weight of liquid polyethylene glycol molecular weight 400, and a free radical initiator, dibenzoyl peroxide is disclosed. EXAMPLE 2 discloses a process for preparing a graft polymer comprising heating a solution of vinyl acetate, polyethylene glycol, molecular weight about 2,500, and a free radical initiator, dibenzoyl peroxide, and adding the residual portion comprising the free radical initiator over a course of 2 hours. It is also taught that the grafting of the monomers along the polyethylene glycol chains is induced by means of a radical forming chain transfer mechanism. See page 2, lines 17-21.

GB '457 does not specifically teach the addition of free-radical initiator system in solution consisting of a free radical initiator and a liquid polyethylene glycol having a molecular weight between 88 and 1000.

Wu et al. teach a process for making narrow molecular weight distribution polyvinylpyrrolidone, K-90 polymers having a polydispersity of less than 6, by free radical polymerization. It is also taught that the free radical initiator is added as a solution consisting of a free-radical initiator in liquid polyethylene glycol, or PEG, having a molecular weight of 300. See column 3, EXAMPLE 2, wherein PEG-300 and 0.2 g of initiator Vazo-67 were added to the mixture comprising monomer, vinylpyrrolidone, and PEG-300.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add free radical initiator as a solution in liquid polyethylene glycol, having a molecular weight between 88 and 1000 because Wu et al. teach the addition of free radical initiator in PEG-300. One of ordinary skill in the art at the time of invention would have been motivated to employ free radical initiator as a solution in liquid polyethylene glycol because 1) Wu et al. teaches the advantage of using liquid polyethylene glycol, PEG-300 i.e better control of the molecular weight distribution, polydispersity, and 2) Wu et al. and GB '457 are both directed to a method of making polymers from monomeric units by free radical polymerization. Thus, one of ordinary skill in the art at the time of invention would have been motivated to add free radical initiator as a solution in liquid polyethylene glycol with the expectation of controlling the properties such as polydispersity of the graft polymers.

Priority

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Germany on 2/9/00. It is noted, however, that applicant has not filed a certified copy of the German application as required by 35 U.S.C. 119(b).

Response to Arguments

Applicant's arguments filed on 01/11/2006 with respect to the rejection made under 35 U.S.C. 102(b) of record in the previous Office Action dated 08/05/2005 have been considered but are moot in view of the new ground(s) of rejection above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period, will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Art Unit: 1617

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shobha Kantamneni whose telephone number is 571-272-2930. The examiner can normally be reached on Monday-Friday between 7.00 am to 3.30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, Ph.D can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shobha Kantamneni, Ph.D
Patent Examiner
Art Unit 1617



SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER